

FIG. 1

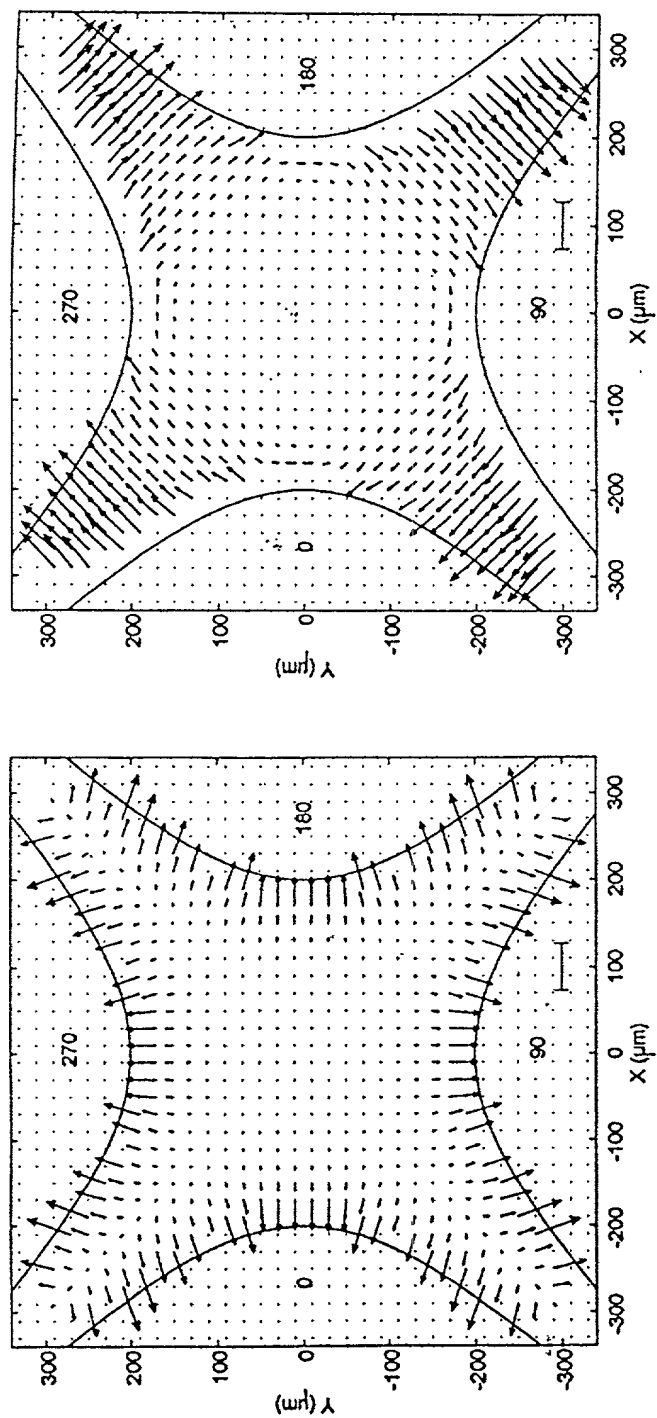


FIG. 2

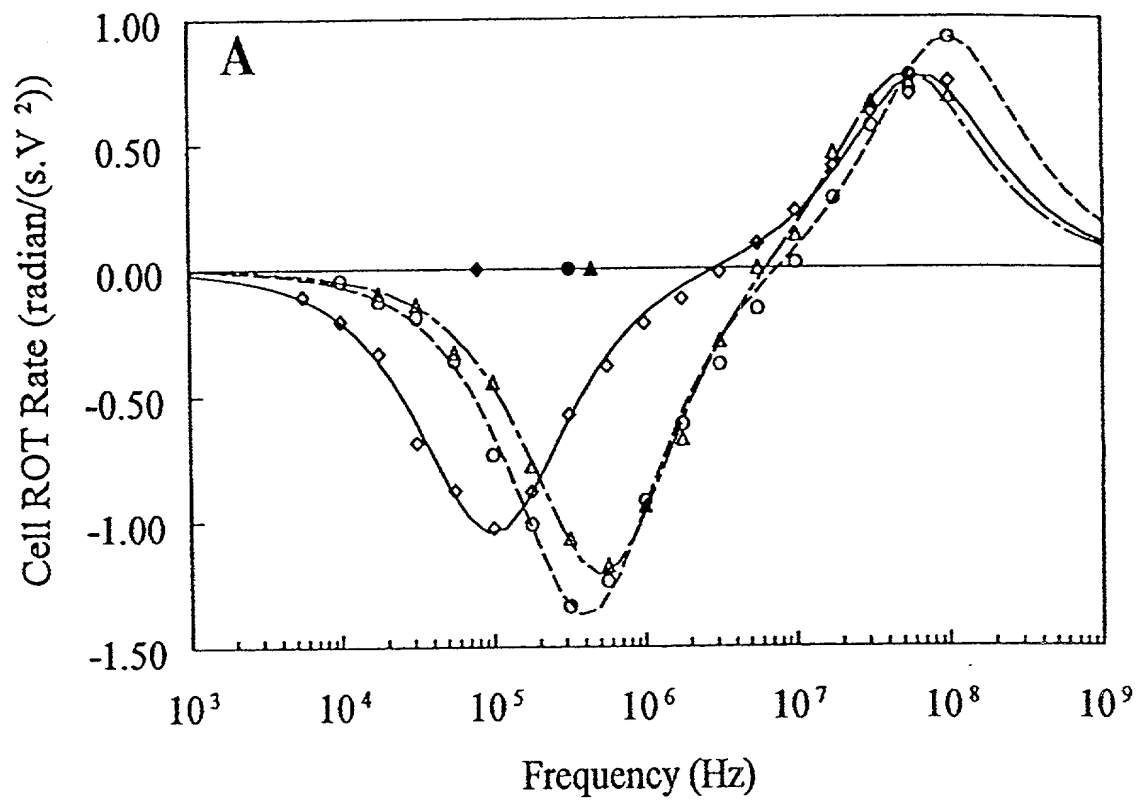


FIG. 3

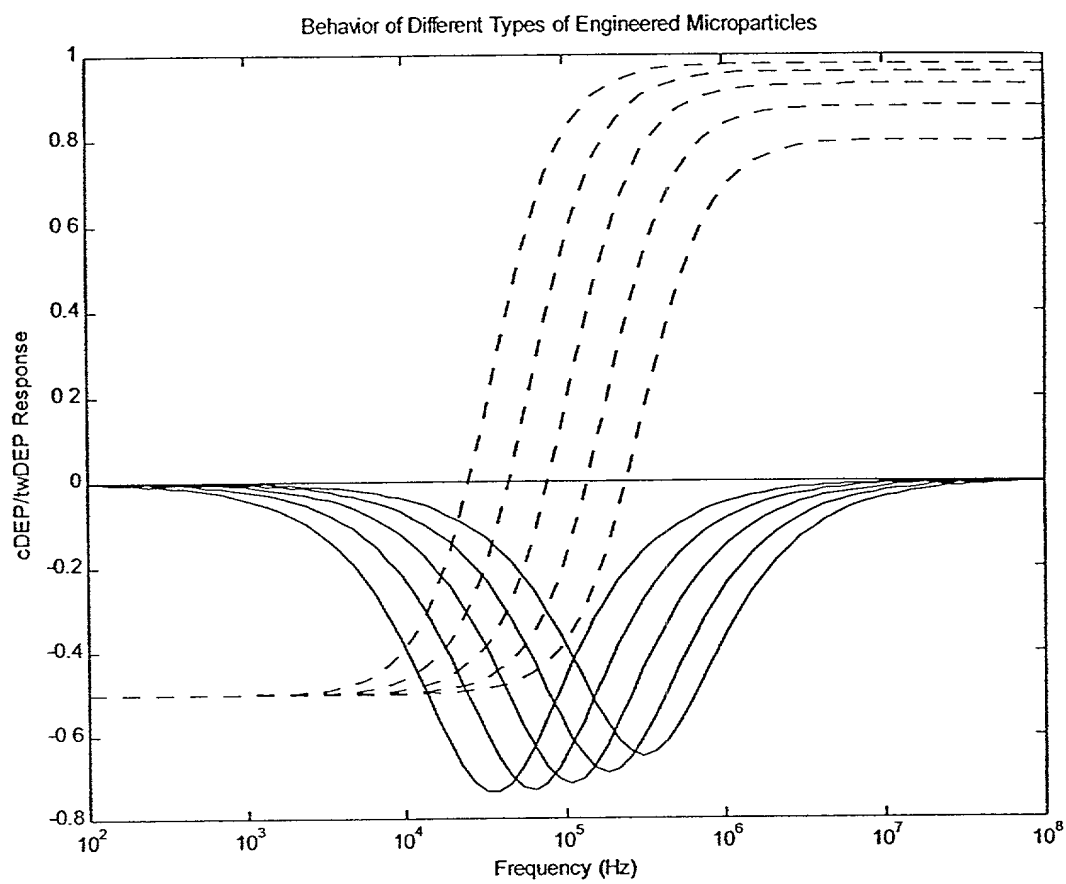


FIG. 4

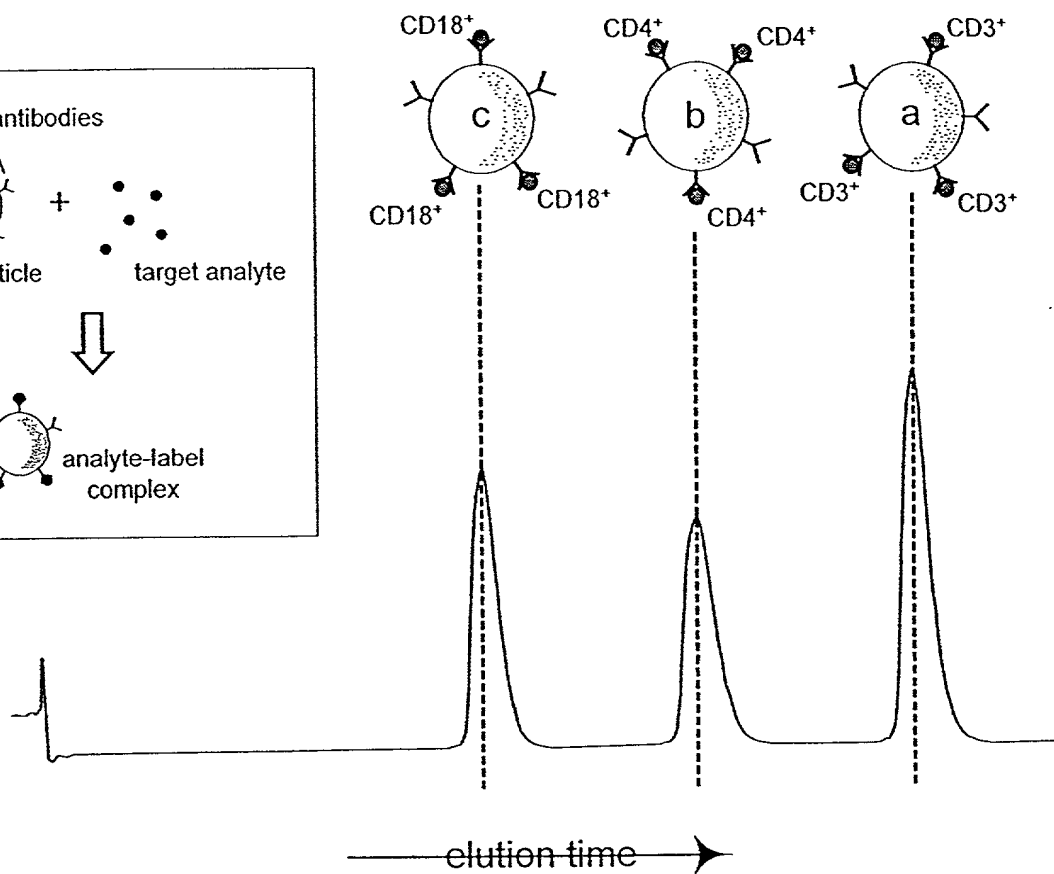
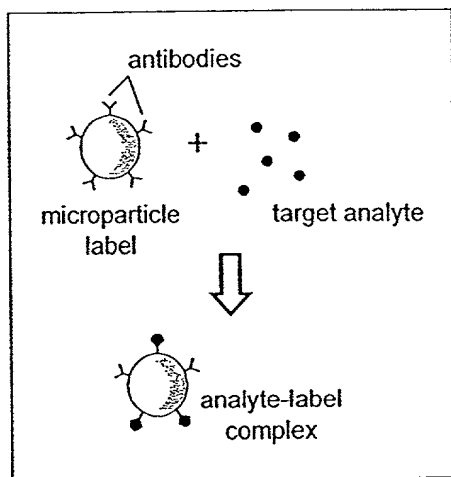


FIG. 5

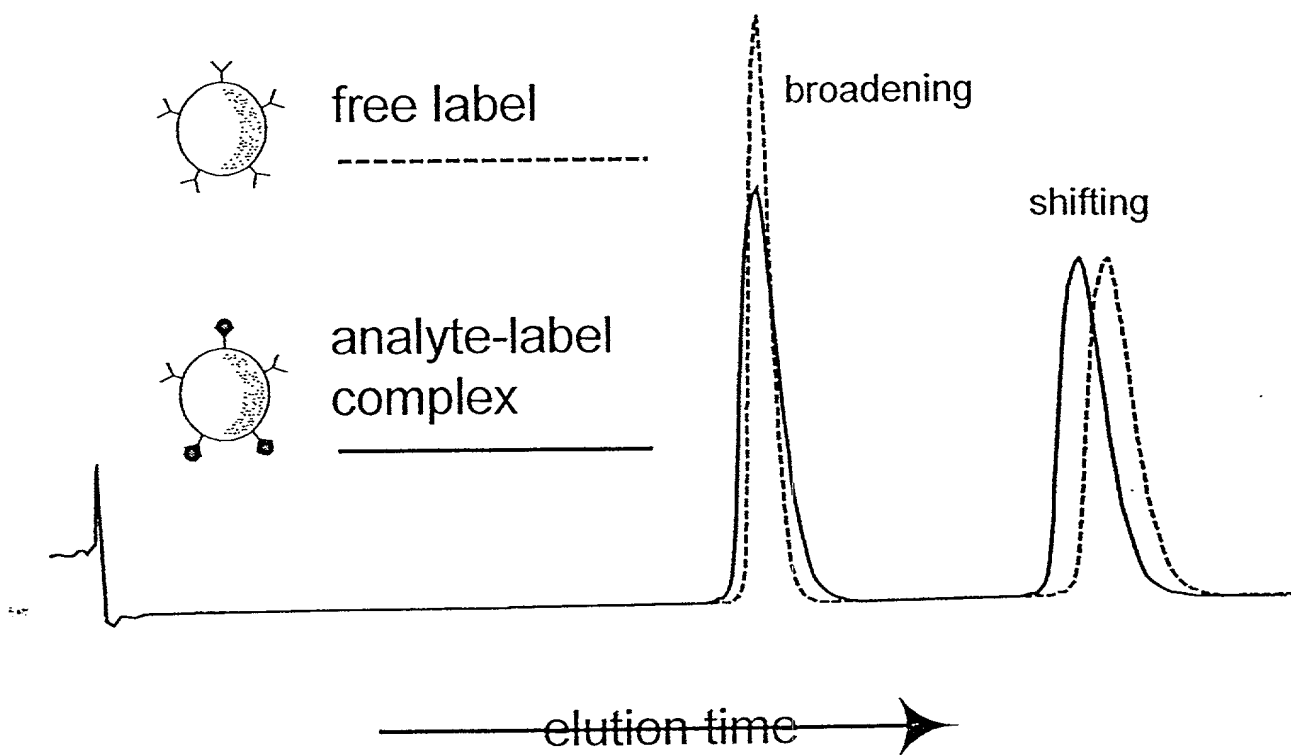


FIG. 6

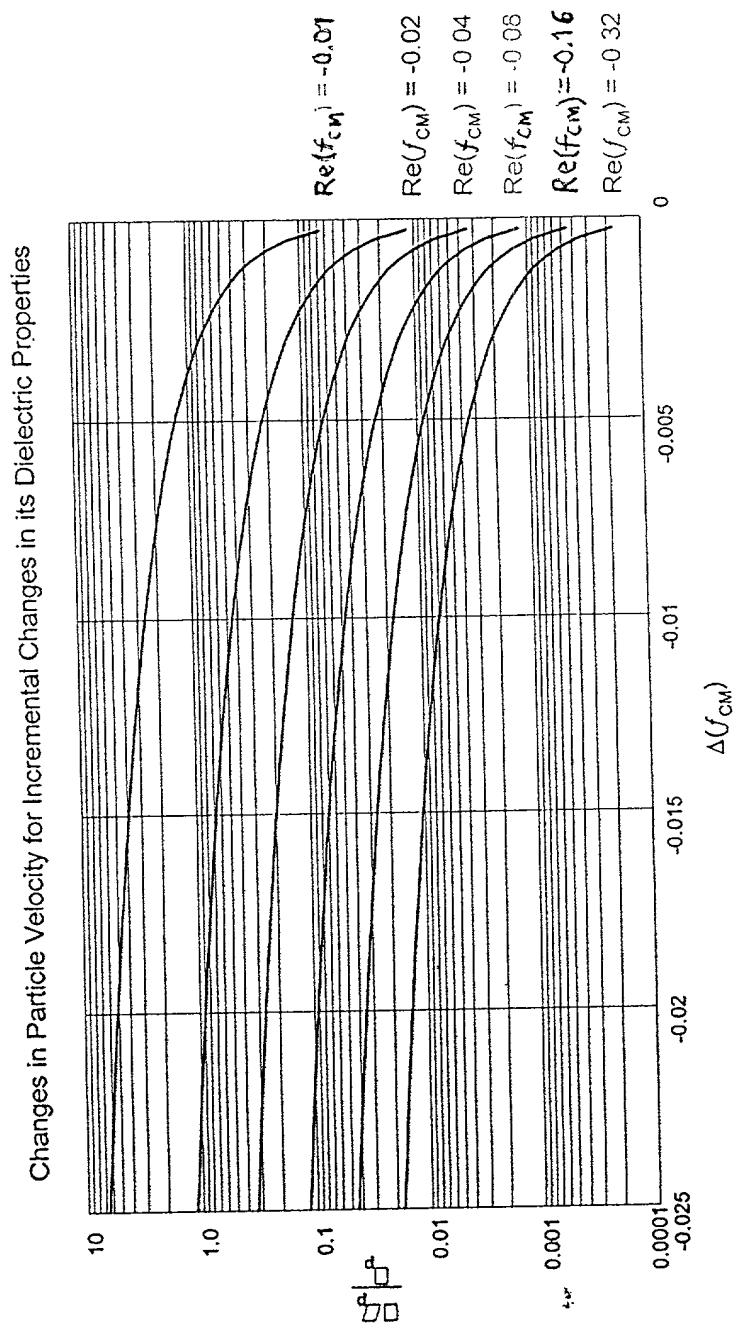


FIG. 7

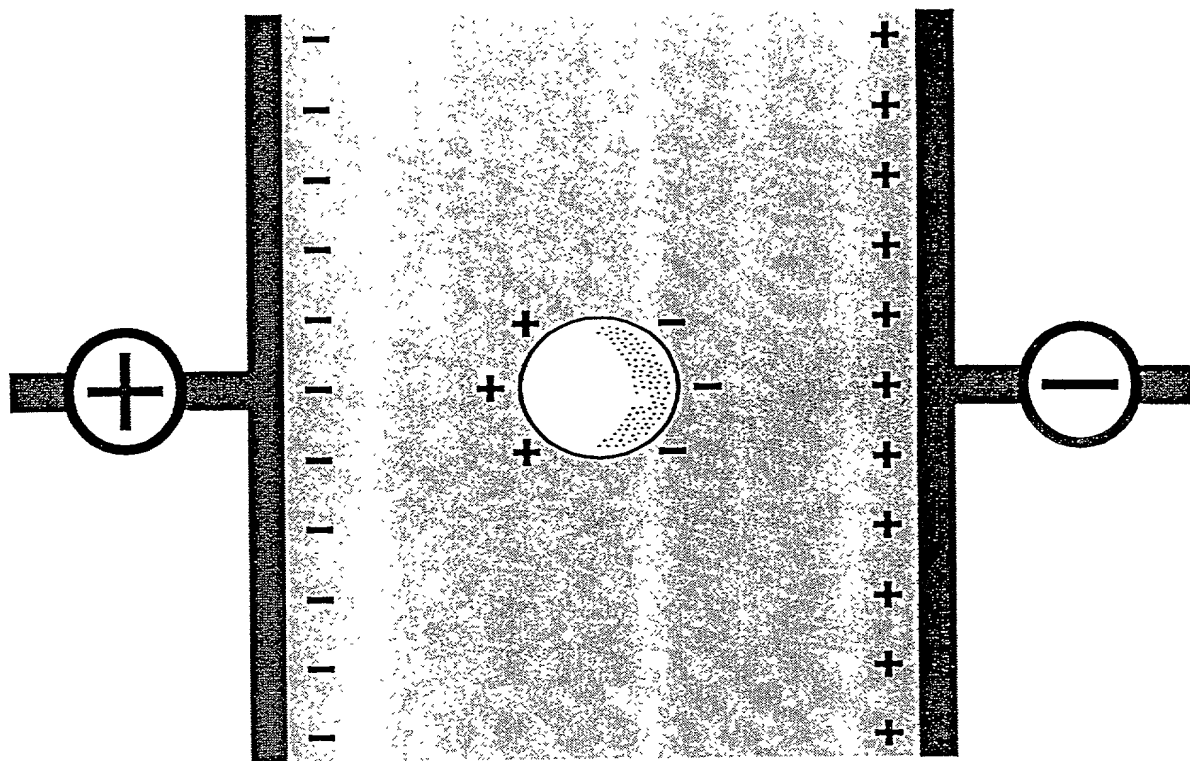


FIG. 8

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$
$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

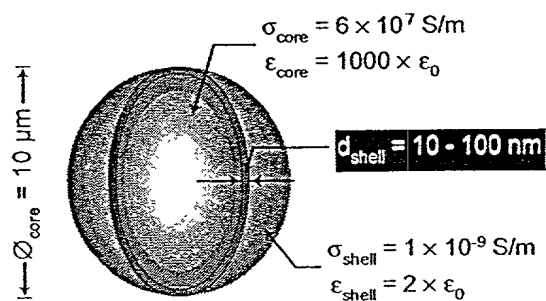


FIG. 9A

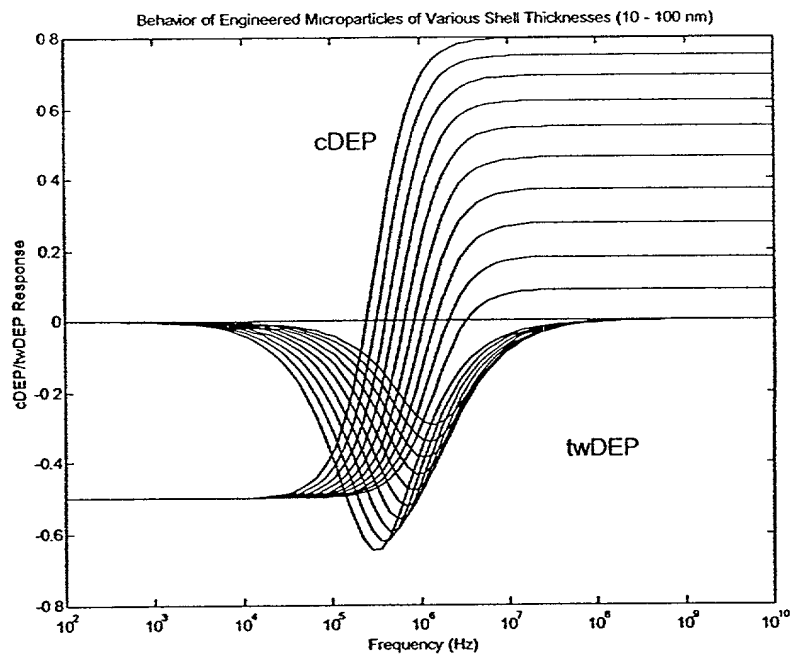


FIG. 9B

$\sigma_{\text{medium}} = 0.01 \text{ S/m}$
 $\epsilon_{\text{medium}} = 78 \times \epsilon_0$

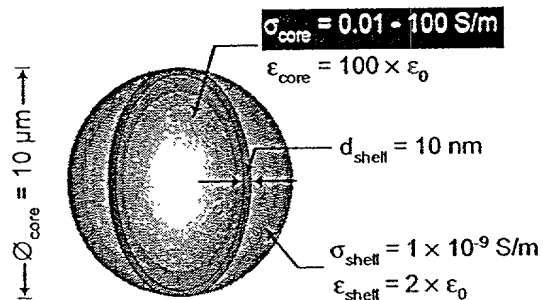


FIG. 10A

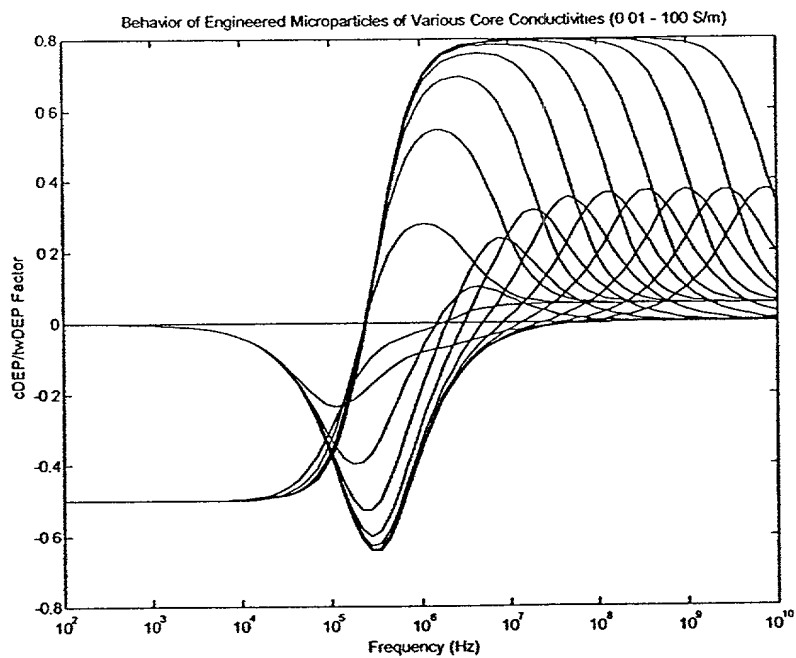


FIG. 10B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

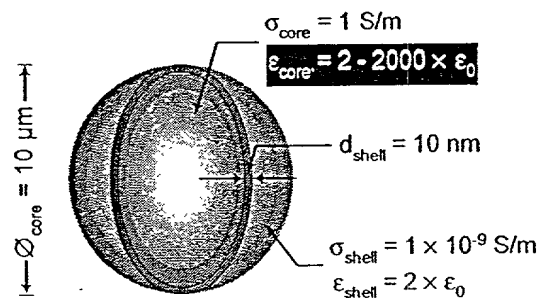


FIG. 11A

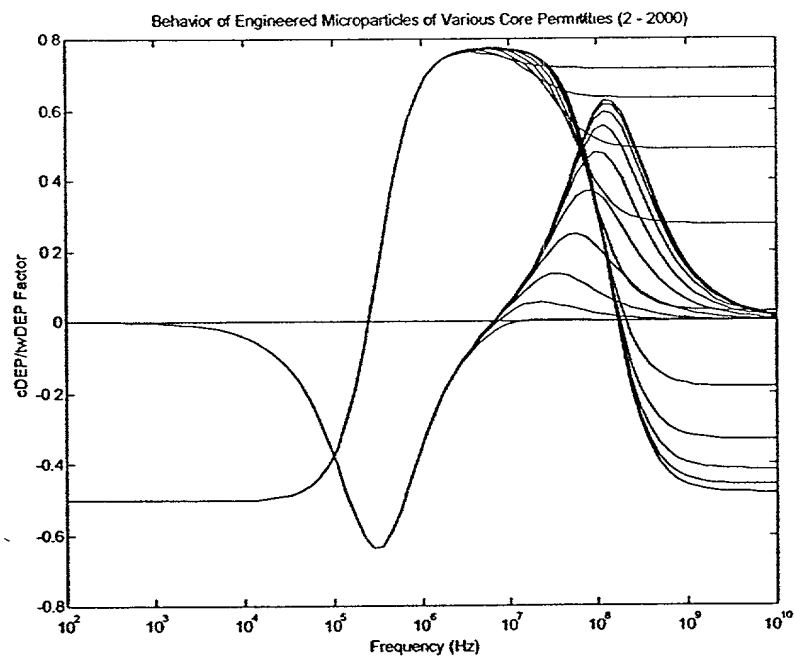


FIG. 11B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

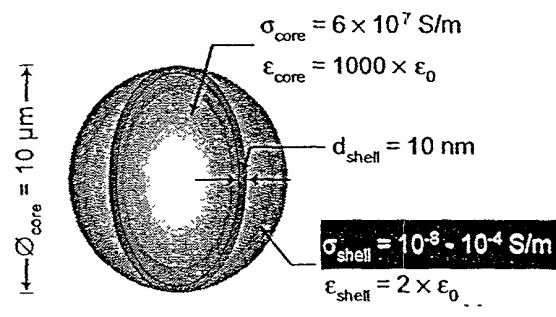


FIG. 12A

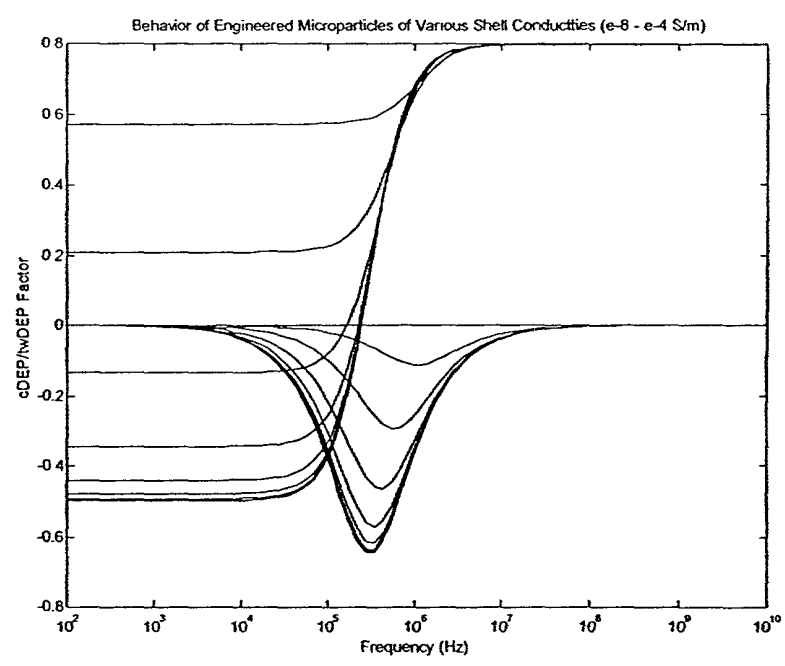


FIG. 12B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

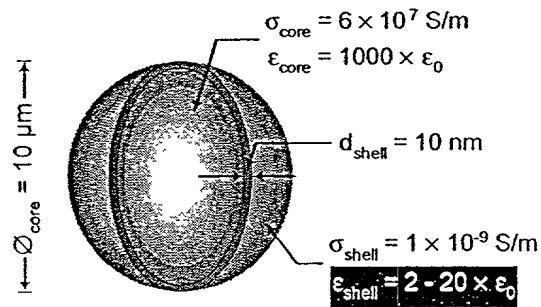


FIG. 13A

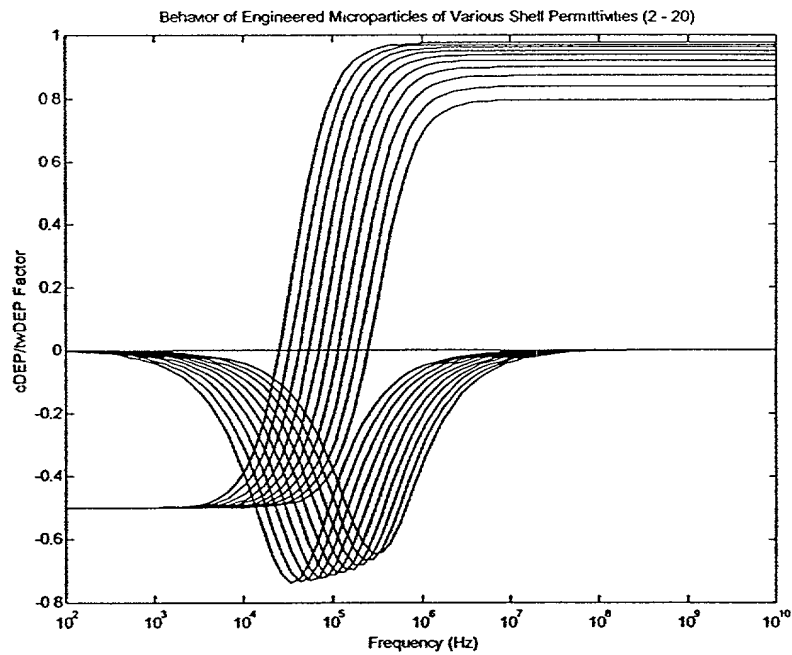


FIG. 13B

$$\sigma_{\text{medium}} = 0.01 - 10 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

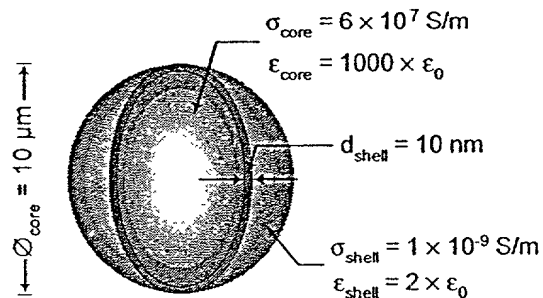


FIG. 14A

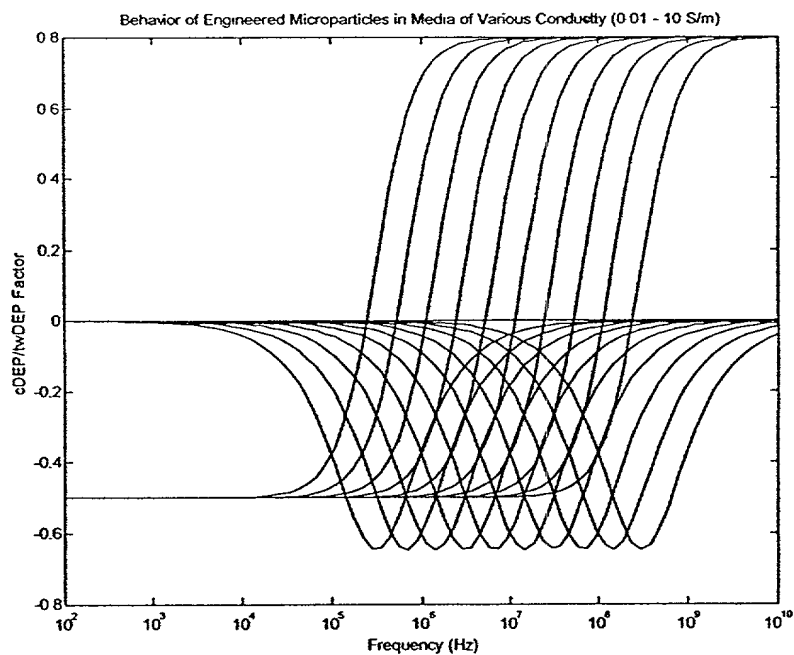


FIG. 14B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 2 - 200 \times \epsilon_0$$

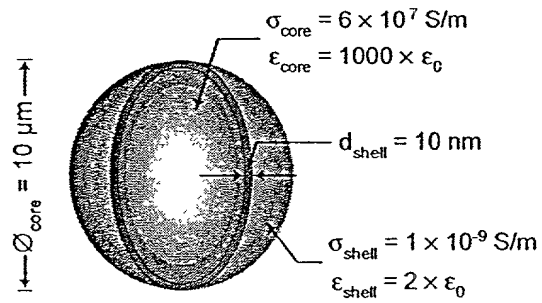


FIG. 15A

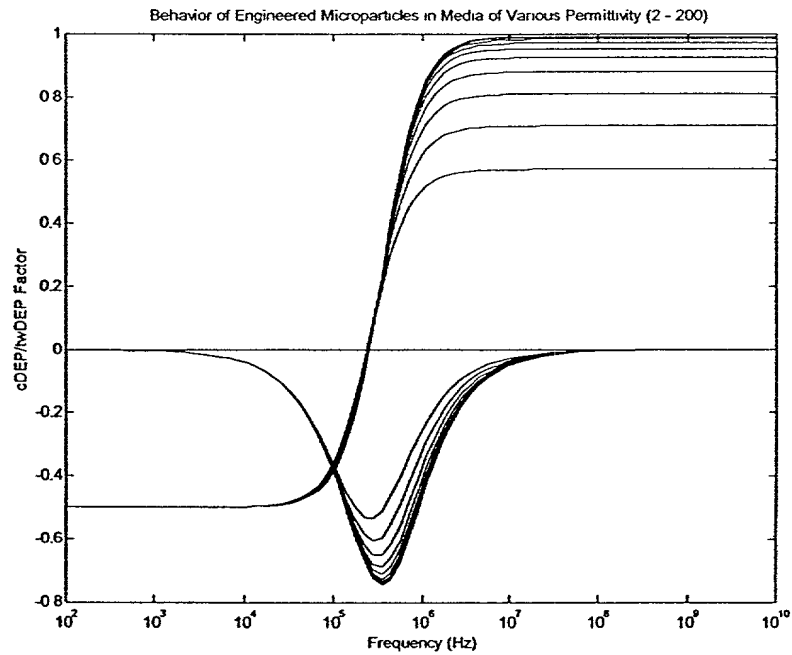
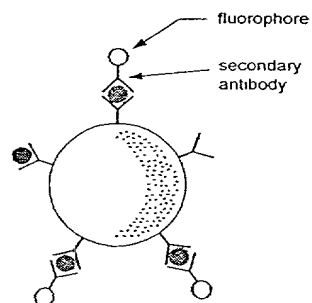
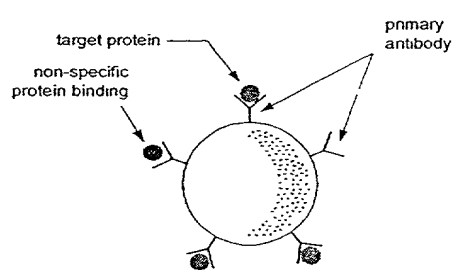


FIG. 15B

1. Protein Detection



2. mRNA Detection

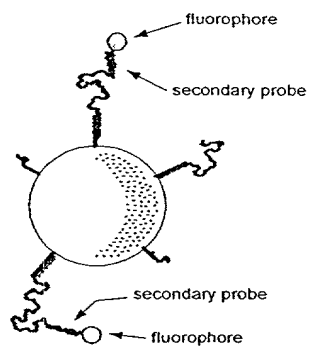
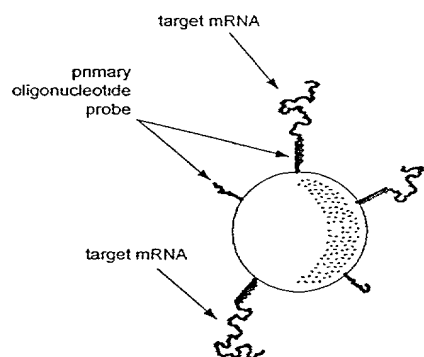


FIG. 16

single layer version

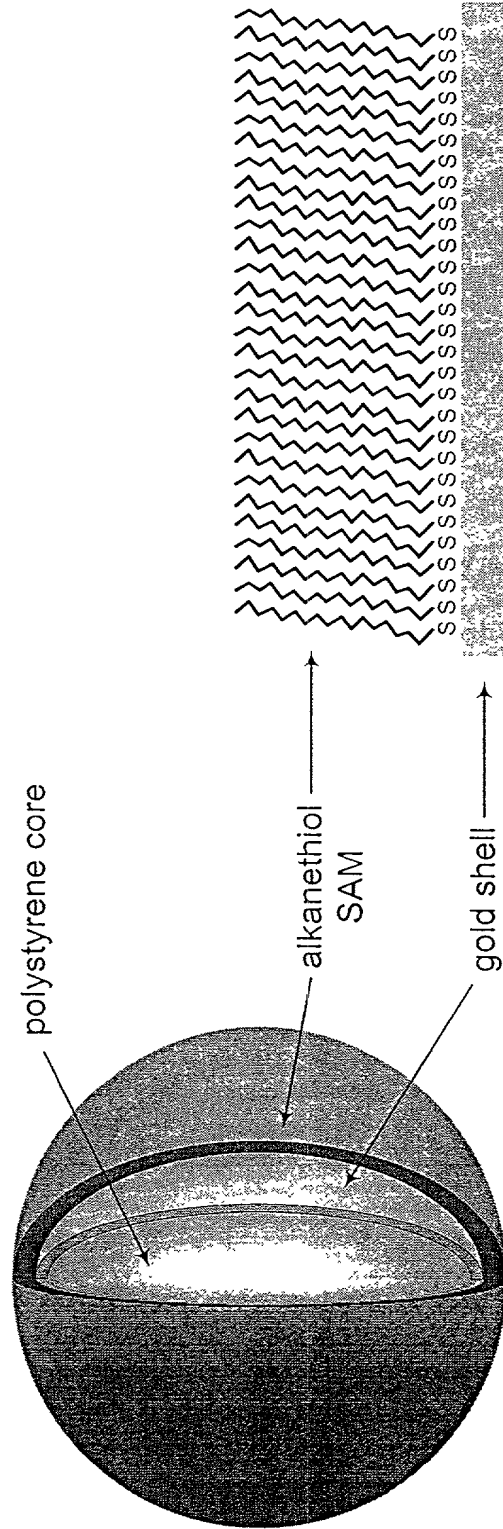


FIG. 17

double layer version

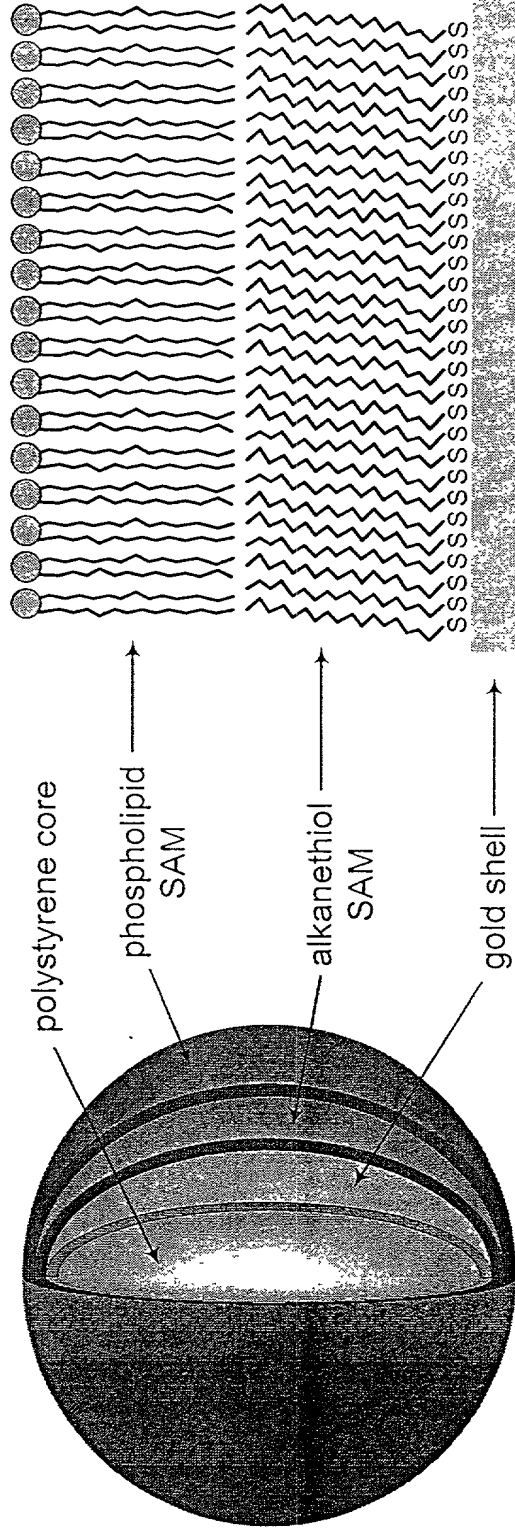


FIG. 18

cross-linked double layer version

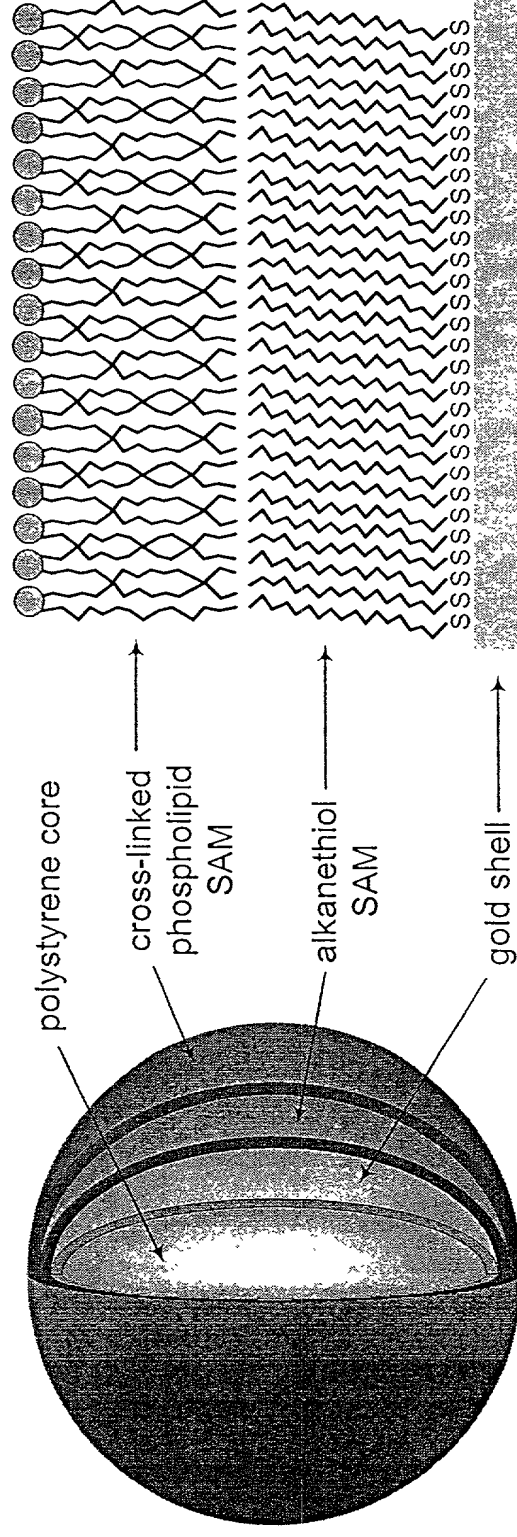


FIG. 19

double layer version with nucleic acid recognition element

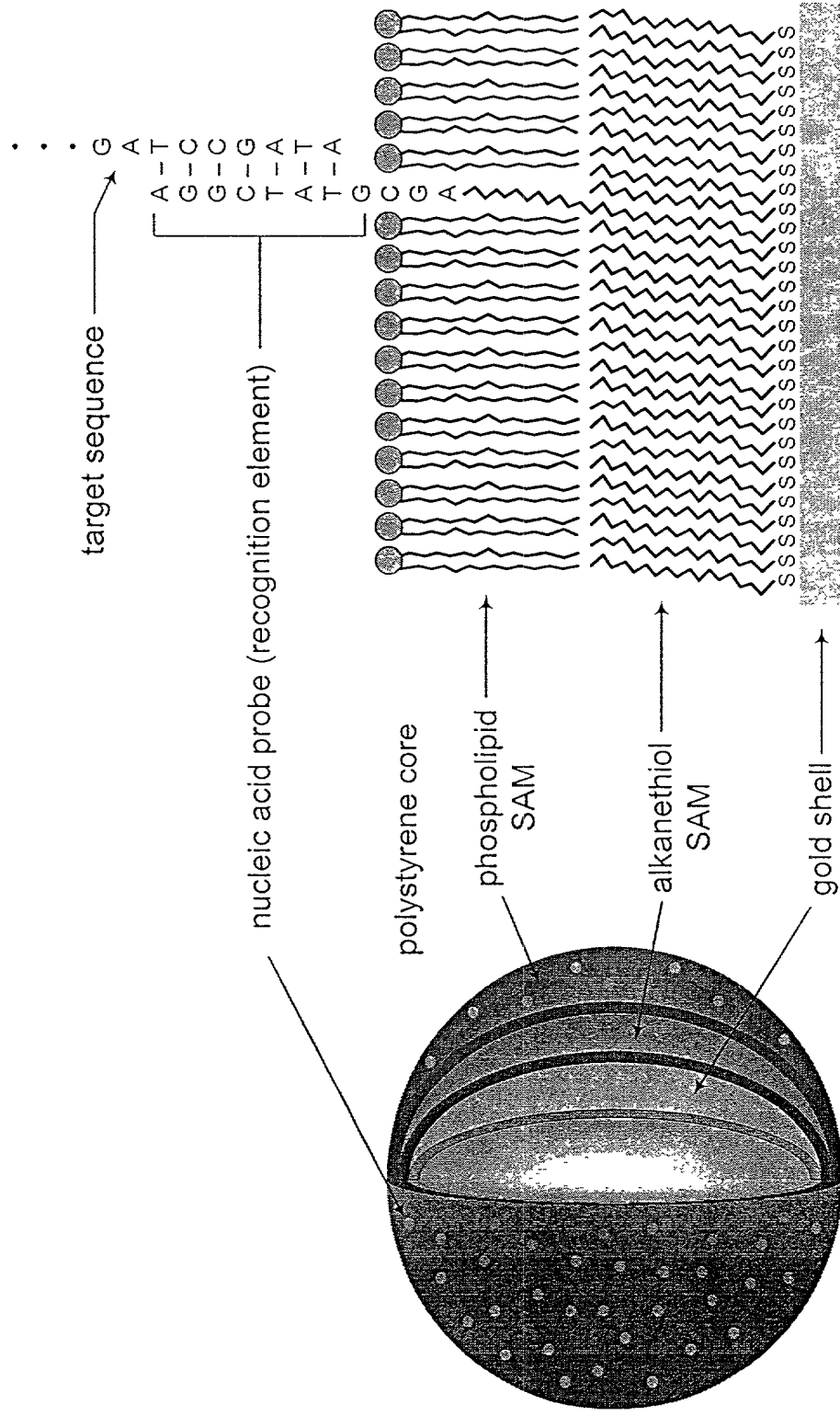


FIG. 20

double layer version with protein recognition element

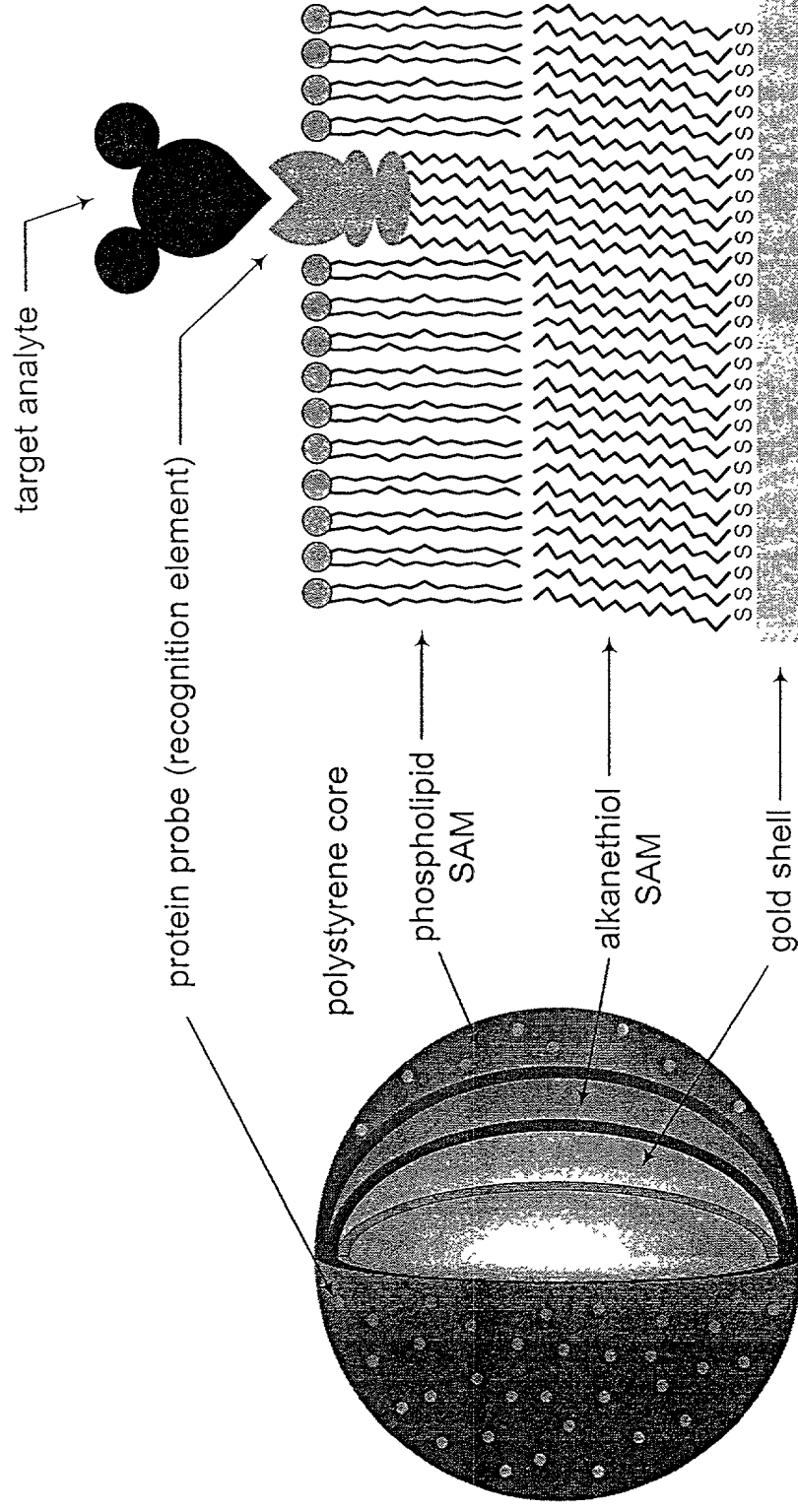


FIG. 21

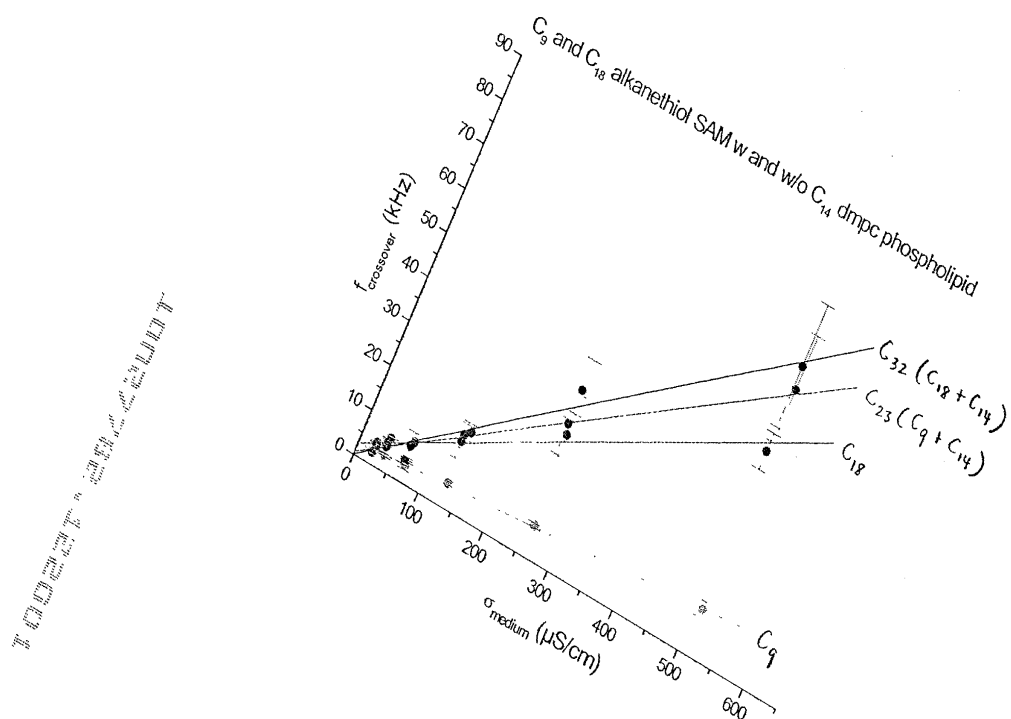


FIG. 22

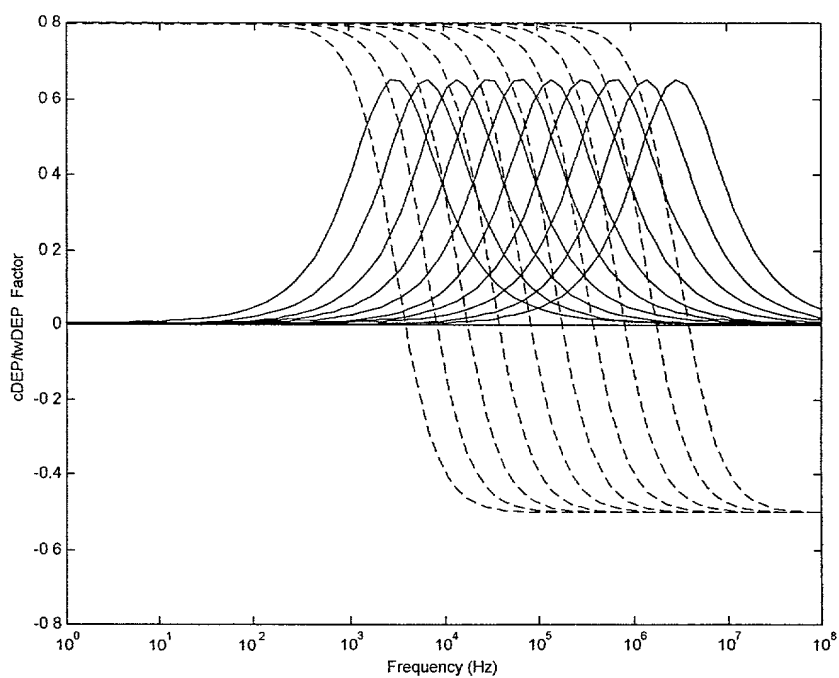


FIG. 23

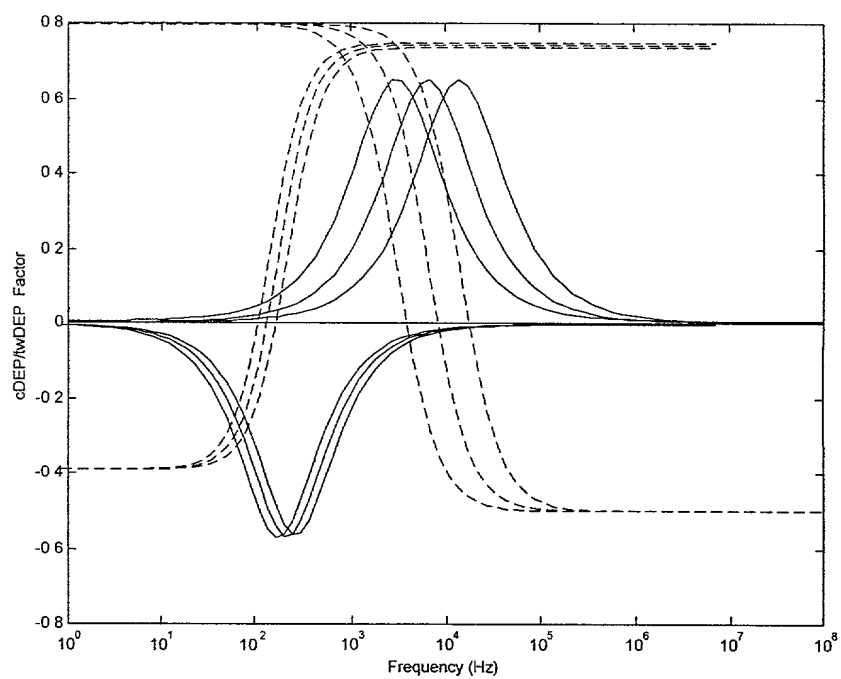


FIG. 24

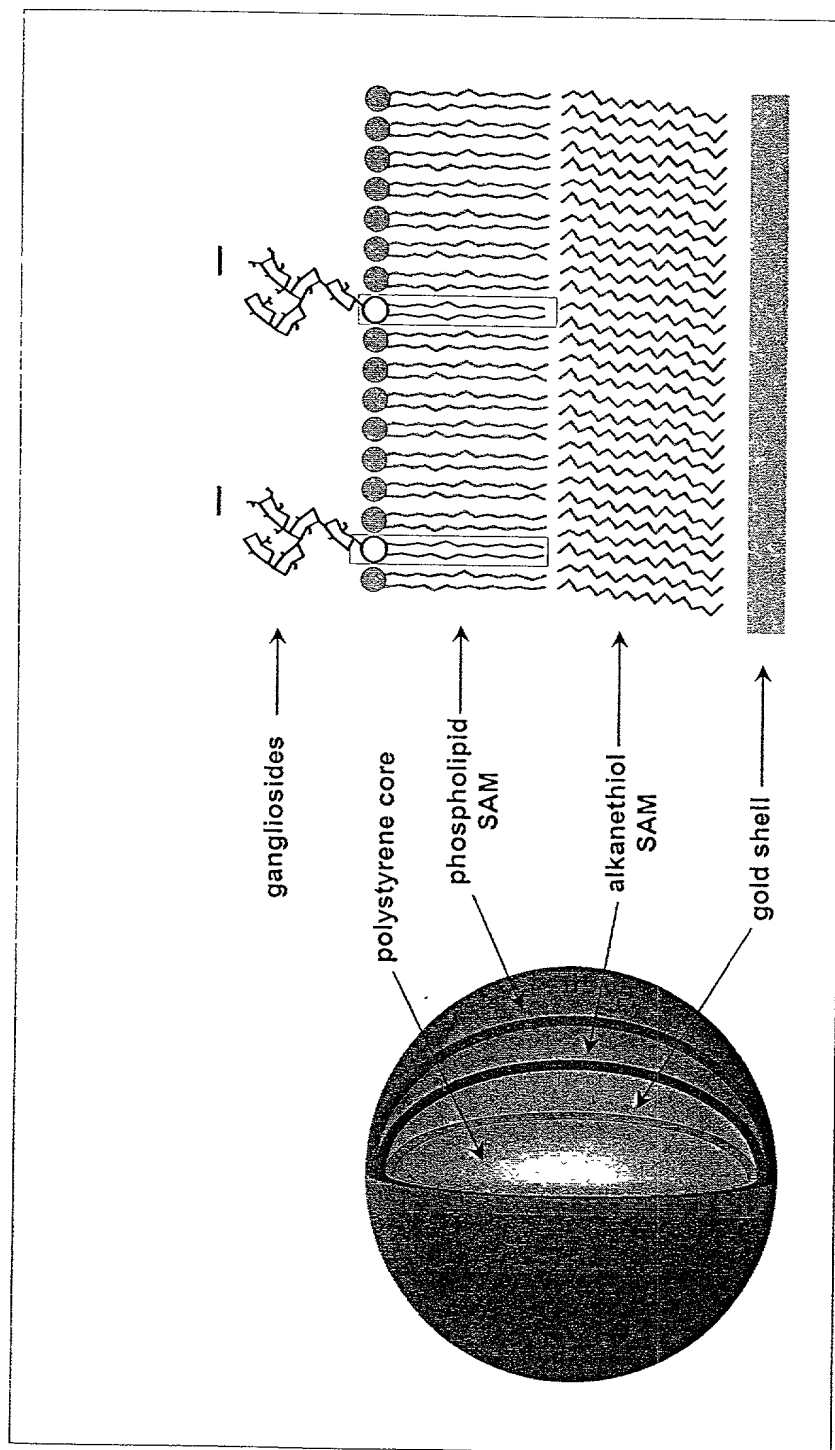


FIG. 25

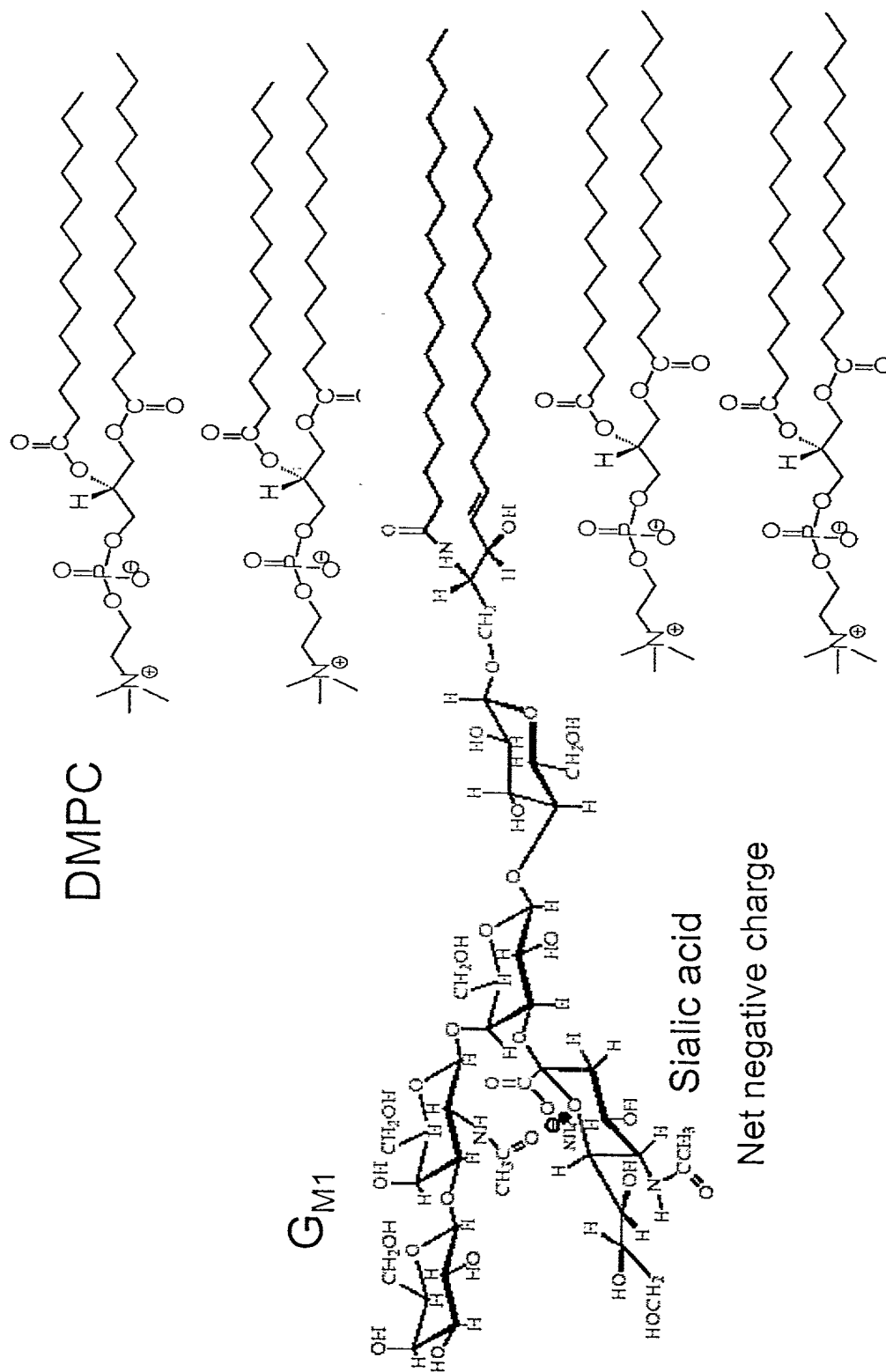


FIG. 26

DEP spectral responses to changes in vesicle

properties

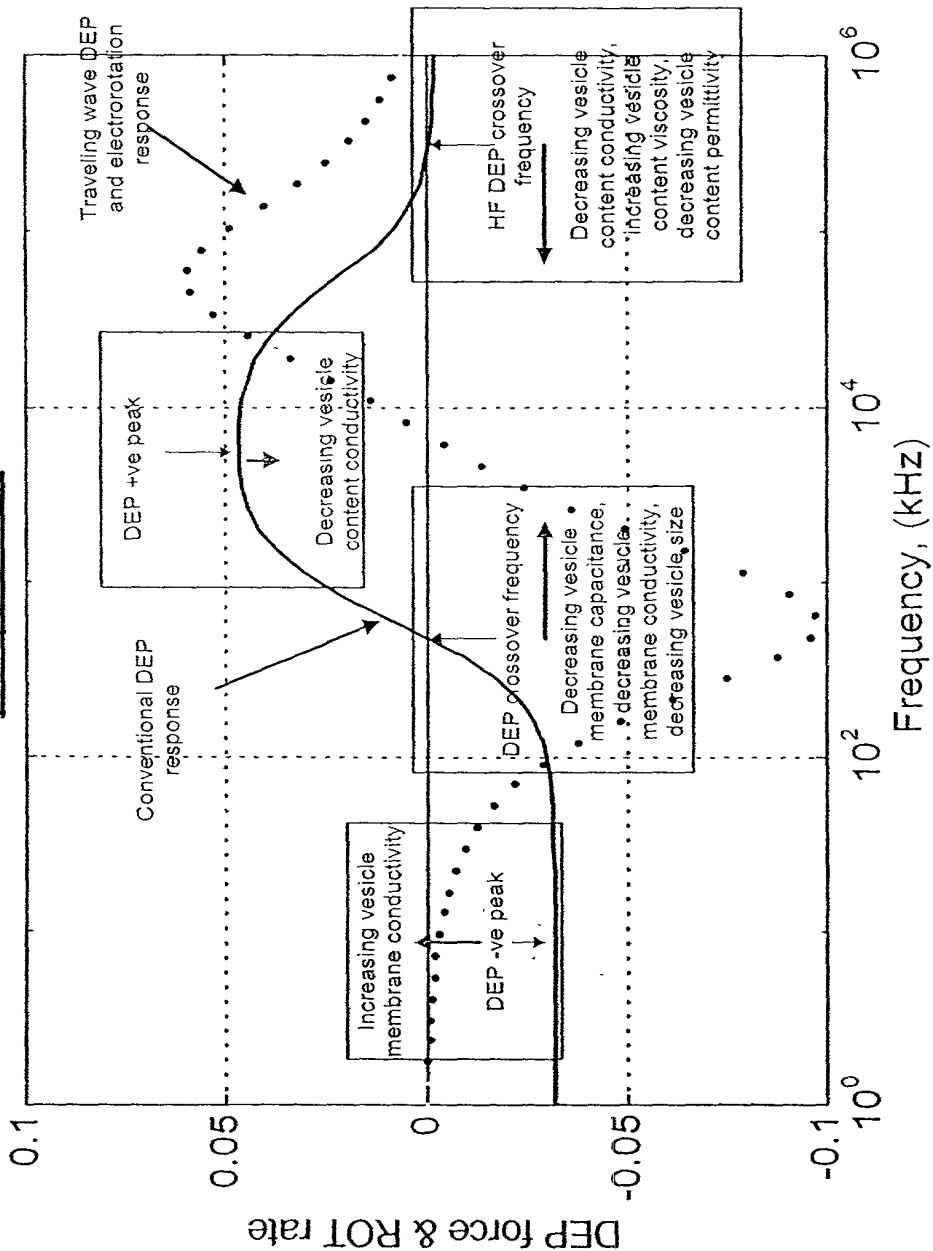


FIG. 27

DEP results for resealed erythrocyte ghosts

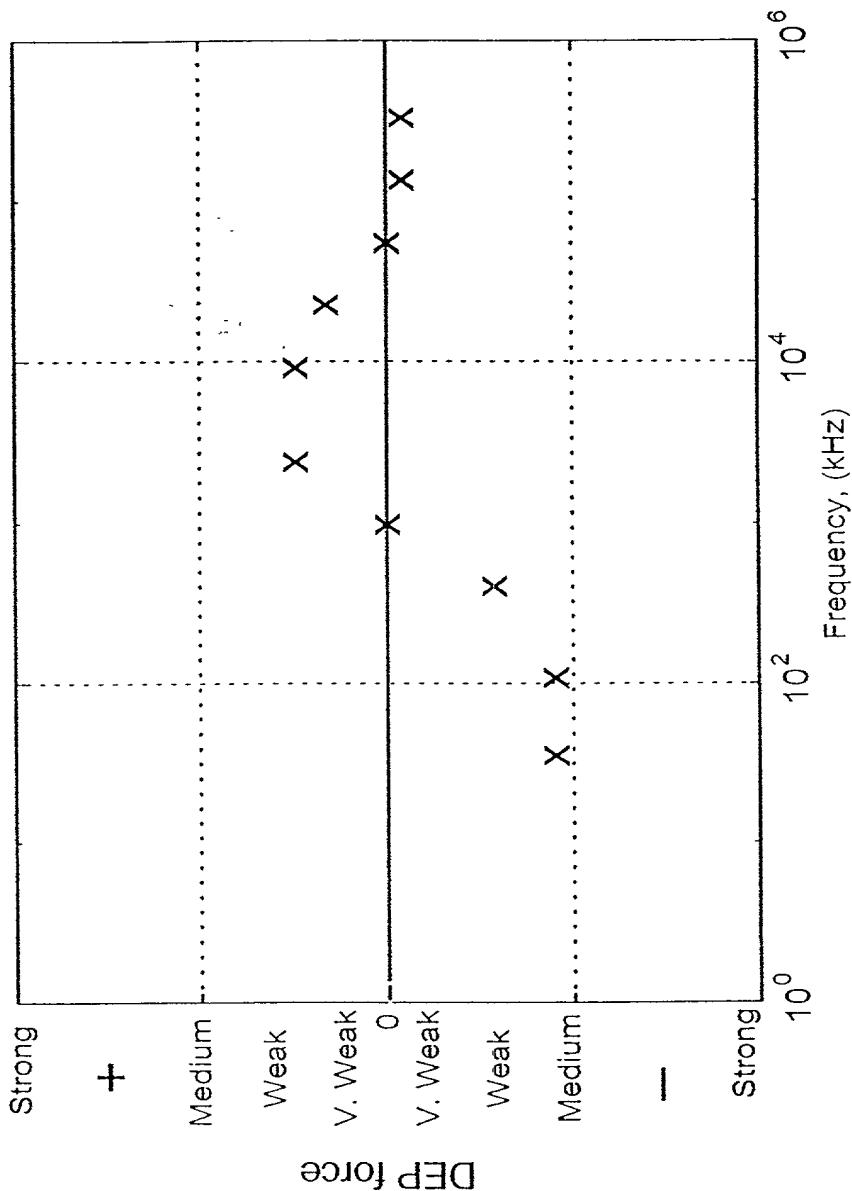


FIG. 28

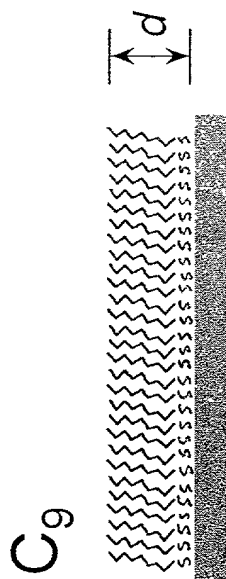


FIG. 29A

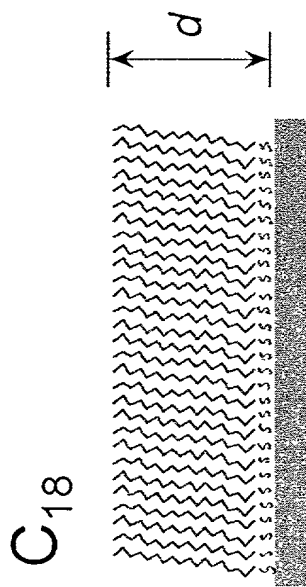


FIG. 29B

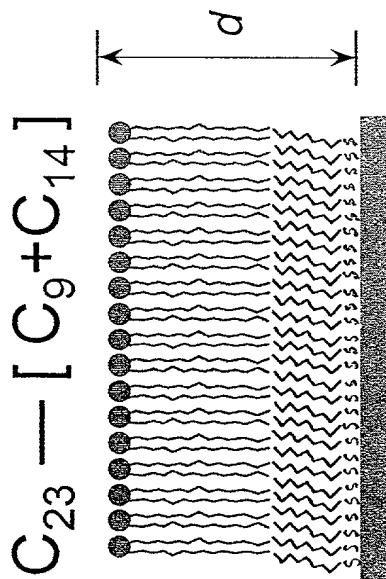


FIG. 29C

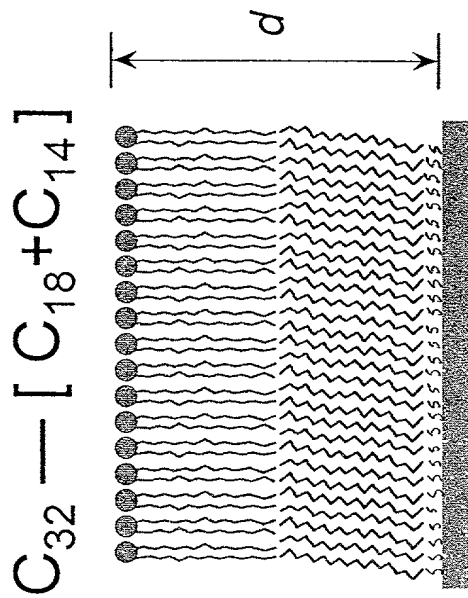


FIG. 29D

Dielectric Properties of Engineered Microspheres

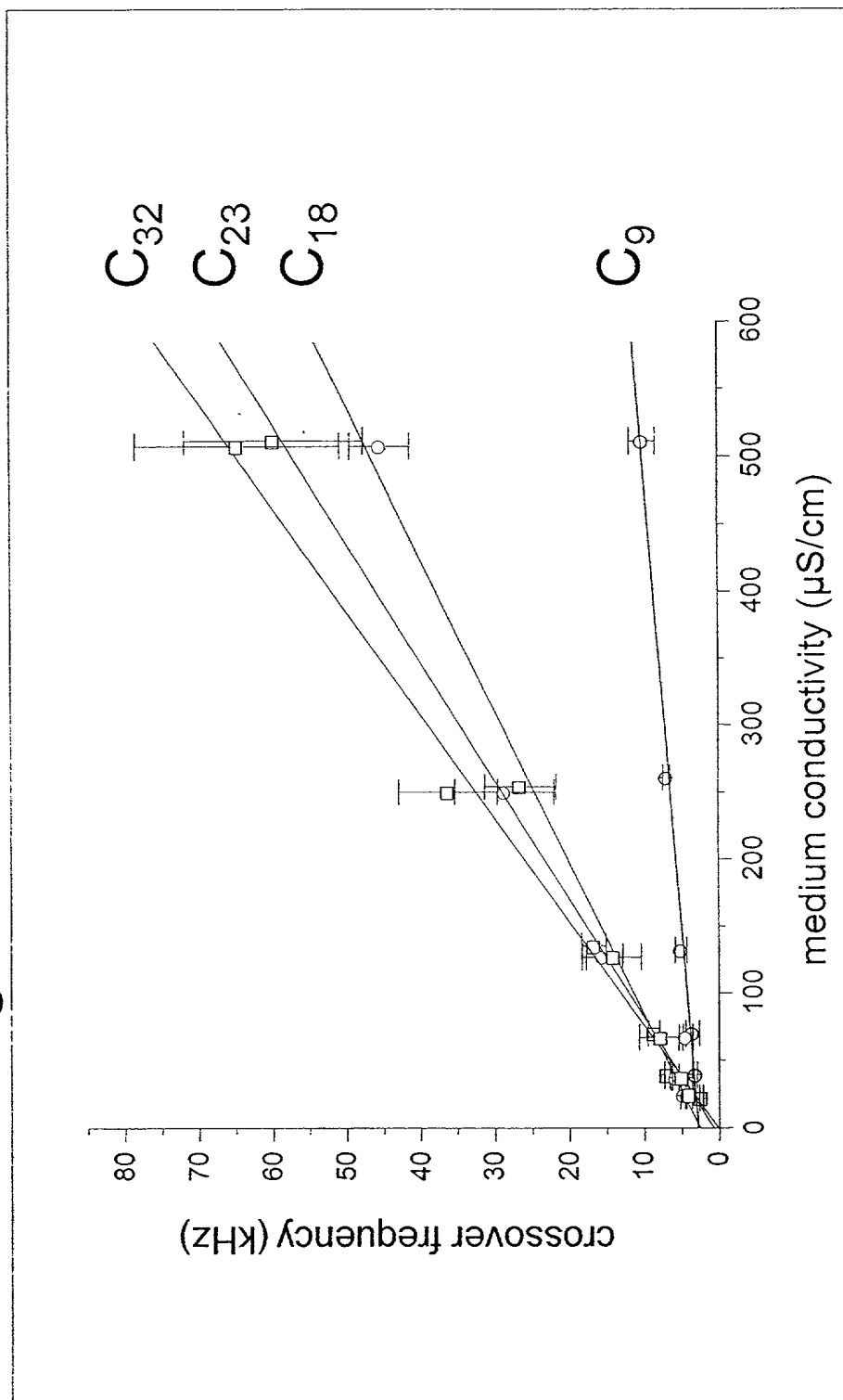


FIG. 30

Biotin/streptavidin system for surface functionalization

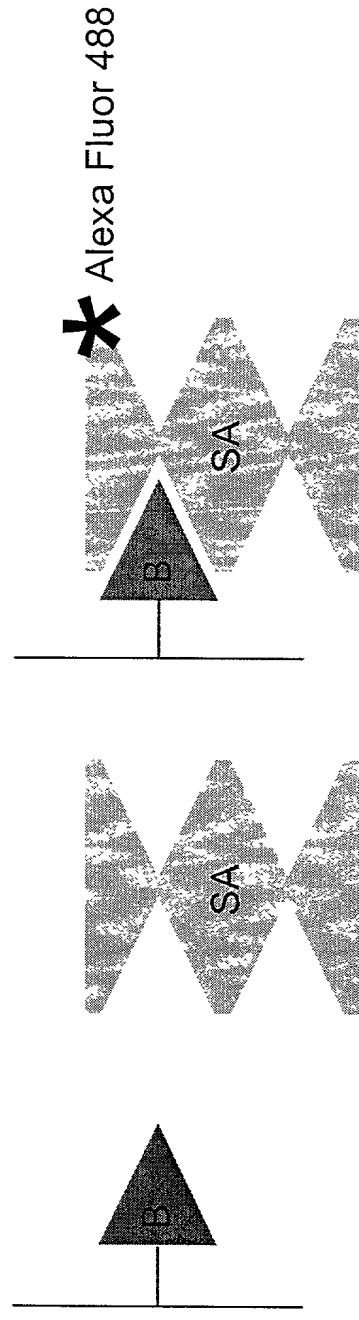


FIG. 31A

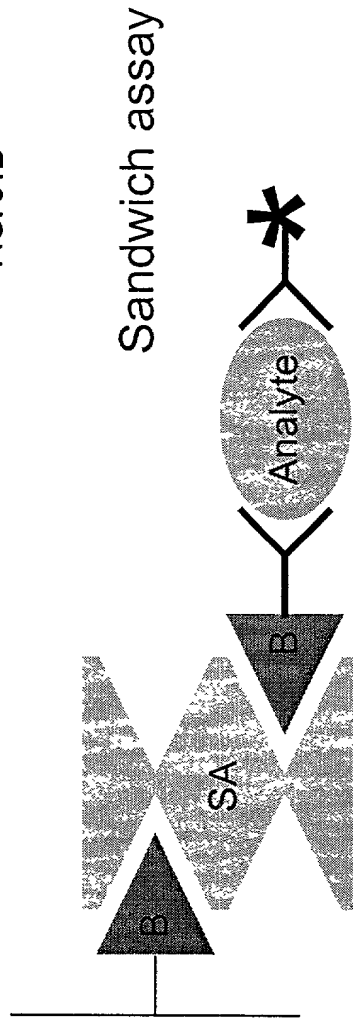


FIG. 31C

Addressable, indexable microspheres for multiplex analyte detection and manipulation

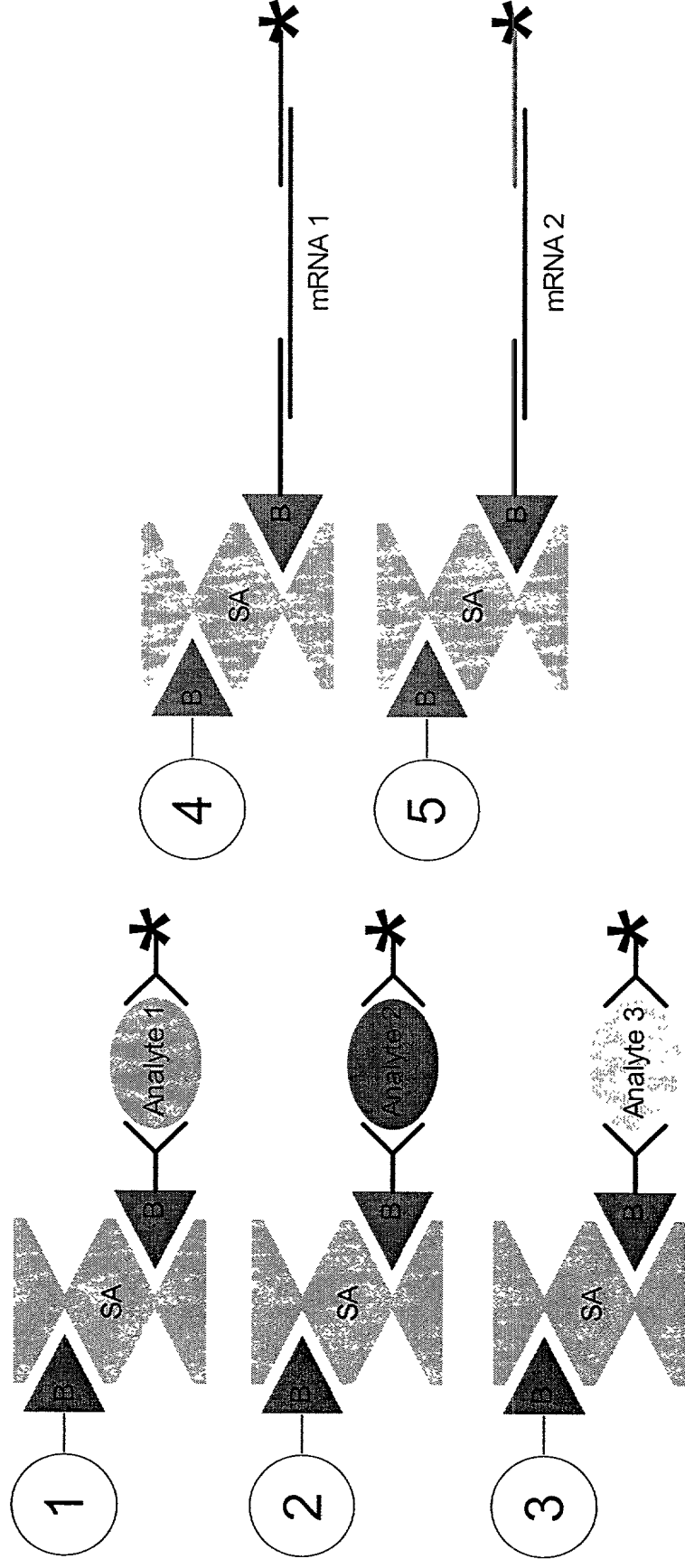
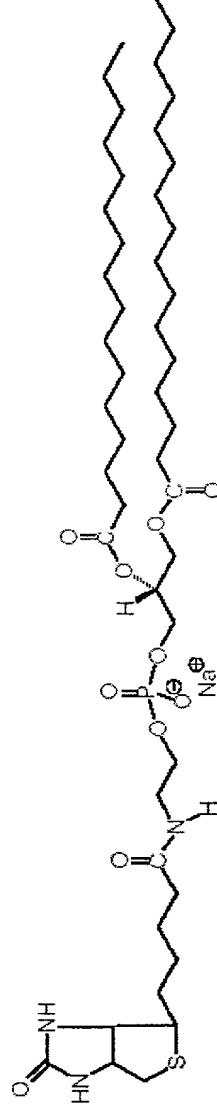


FIG. 32

Surface functionalization: biotinylated phospholipids

N-Biotinyl-PE



N-Biotinyl Cap-PE

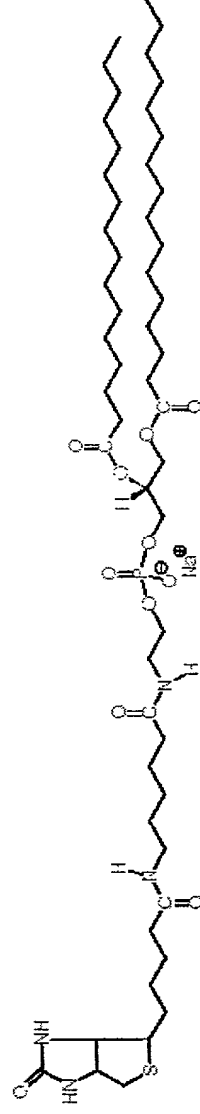


FIG. 33